



2016 INPRS UPDATE

Indiana State Budget Committee
December 7, 2016

Steve Russo
Executive Director

About INPRS

With approximately \$30B in assets, INPRS serves the retirement needs of approximately 460,000 members and more than 1,200 public employers

- **Nine Retirement Funds**

- PERF
- TRF Pre- '96
- TRF '96
- '77 Police and Fire
- Judges
- Excise Police, Gaming Agents and Conservation Officers
- Prosecuting Attorneys
- Legislators Defined Benefit
- Legislators Defined Contribution

- **Three Non-Retirement Funds**

- Pension Relief
- Public Safety Officers' Special Death Benefit Fund
- State Employees' Death Benefit Fund

Agenda

- General Update
 - Employer/Employee Contributions
 - Investments
 - Liabilities
 - Operations
- Teacher Pre-'96 Plan & Local Public Safety Pension Relief
- COLAs & 13th Checks
- National Trends

INPRS – FY16 in Review

Despite a second straight year of market underperformance, INPRS' managed pension plans remain well funded with no expected increase in 2018 employer contribution rates

- Aggregate funded status of the pre-funded plans remains unchanged at 86%
- Teacher Pre-'96 Pay-Go plan remains stable
- Less than assumed investment returns were partially offset by more than assumed employer contributions and less than assumed COLAs
 - Defined Benefit investment pool 1 year rate of return of 1.2% versus a 6.75% assumption
 - Employers paid 108% of the Actuarial Determined Contribution (ADC)
 - PERF/TRF one-time check versus a 1% COLA assumption
- Continued progress towards exemplary customer service and operational excellence

FY2016 Actual Change In Net Position*

INPRS' Net Assets remained flat from July 1, 2015 to June 30, 2016

Net Assets – June 30, 2015	\$29.9B
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Contributions	+ \$2.2B
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Investment Income	+ \$0.3B
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Payments	- \$2.5B
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Net Assets – June 30, 2016	\$29.9B
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Contributions - A Year in Review

- **INPRS' Funding Policy establishes adequate contribution rates that seek appropriate levels of stability**
 - At least the amount of the Actuarial Determined Contribution (ADC)
 - Not less than the prior year's rate until 100% funded
- **Collected \$2.2B in pension plan contributions**
 - \$ 923M Employer contributions paid as a % of actual payroll
 - \$ 878M General Fund Appropriations
 - \$ 328M Member Contributions
 - \$ 59M Soft Freeze Employer Payments
 - \$ 42M Other
- **Employers paid 108% of the Actuarial Determined Contribution (ADC)**
- **2016 HEA 1001 appropriated \$29.5M to pay the estimated cost of the FY17 13th check for PERF State, Teacher Pre-'96, and EG&C retirees**

Pension Funding Sources

FY2016 – FY2019

\$ in Millions

Fund	FY2016 Actual		FY2017 Forecast ⁴		FY2018 Forecast ⁴		FY2019 Forecast ⁴	
	General Fund Appropriation	Other ³						
PERF ¹		\$766.1		\$714.7		\$714.0		\$716.0
- Pre-Funded 13th Check ²	\$8.7							
TRF - Pre-1996 Account	\$816.5	\$66.5	\$841.0	\$64.3	\$866.2	\$61.7	\$892.2	\$59.1
- Pre-Funded 13th Check ²	\$41.0							
TRF - 1996 Account		\$304.1		\$345.9		\$368.3		\$390.5
1977 Fund		\$196.0		\$193.4		\$189.0		\$193.3
JRS	\$9.8	\$10.2	\$9.7	\$10.1	\$8.0	\$10.2	\$8.9	\$10.2
EG&C Plan		\$6.3		\$6.8		\$6.5		\$6.6
- Pre-Funded 13th Check ²	\$0.1							
PARF	\$1.4	\$1.3	\$1.5	\$1.3	\$2.7	\$1.4	\$2.9	\$1.4
LEDB & LEDC	<u>\$0.1</u>	<u>\$1.8</u>	<u>\$0.1</u>	<u>\$1.8</u>	<u>\$0.2</u>	<u>\$1.8</u>	<u>\$0.3</u>	<u>\$1.8</u>
Sub-Total	\$877.6	\$1,352.3	\$852.3	\$1,338.3	\$877.1	\$1,352.9	\$904.3	\$1,378.9
Pension Relief	\$155.0	\$57.3	\$160.0	\$57.2	\$150.0	\$57.2	\$145.0	\$57.2
Total	\$1,032.6	\$1,409.6	\$1,012.3	\$1,395.5	\$1,027.1	\$1,410.1	\$1,049.3	\$1,436.1

¹ Includes Soft Freeze Payments of \$59.1 Million in FY16.

² Includes Pre-Funded 13 Check for FY16 & FY17.

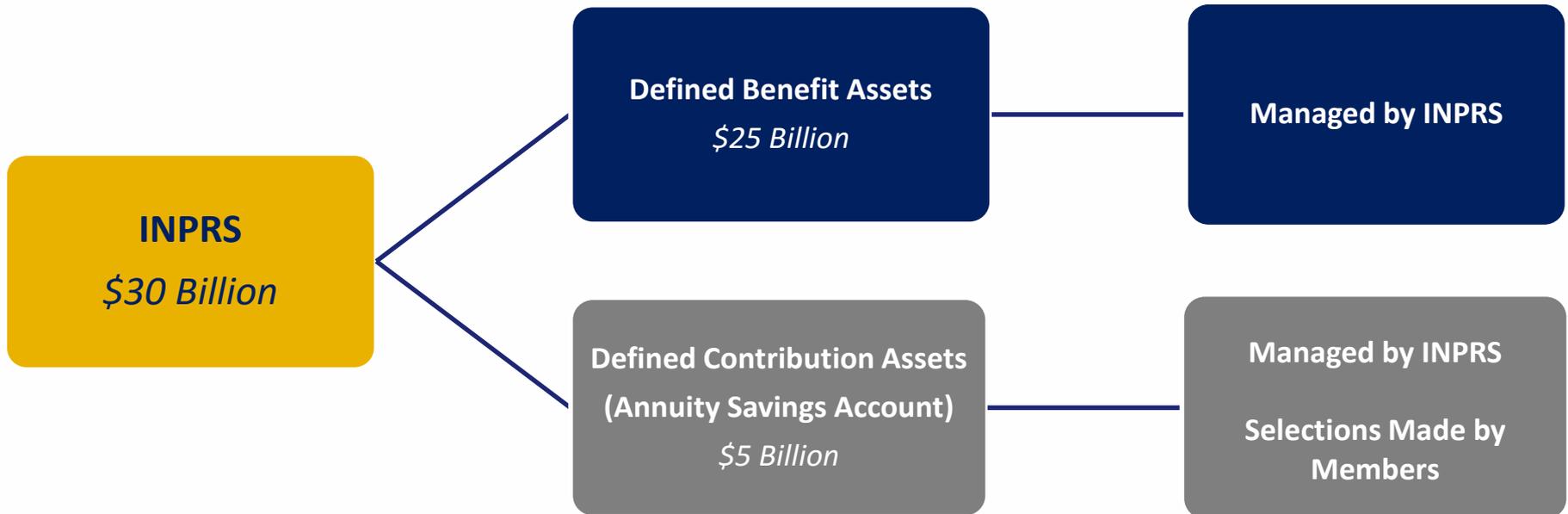
³ Other includes member contributions, employer contributions, lottery proceeds, docket & court fees, cigarette & alcohol taxes.

⁴ Based on the 6/30/2016 Actuarial Valuation. The Other forecast for FY2018 and FY2019 could change.

Investments - A Year in Review

- INPRS' total *market value of assets* = \$29.9 billion
- In a continuation of a low return environment, INPRS' defined benefit plan returned 1.2% in FY16
- The *actuarial value of assets* is used in calculating the funded ratio and actuarial required contributions. Investment returns are smoothed over 5 years. Better returns in FY14 are dampening lower returns in FY15 and FY16
- Continue to target 6.75% long-term rate of return assumption; most realistic among state plans
- Synergies of combined PERF/TRF assets continue to reduce fees: Net Present Value Savings = \$370.8M

INPRS Assets Are a Mix of Defined Benefit and Defined Contribution Monies



INPRS' Defined Benefit Investment Imperatives

- Achieve a 6.75% return over the long term
- Achieve the return as efficiently & effectively as possible
- Always have enough cash on hand to pay benefits

INPRS' Asset Allocation Process

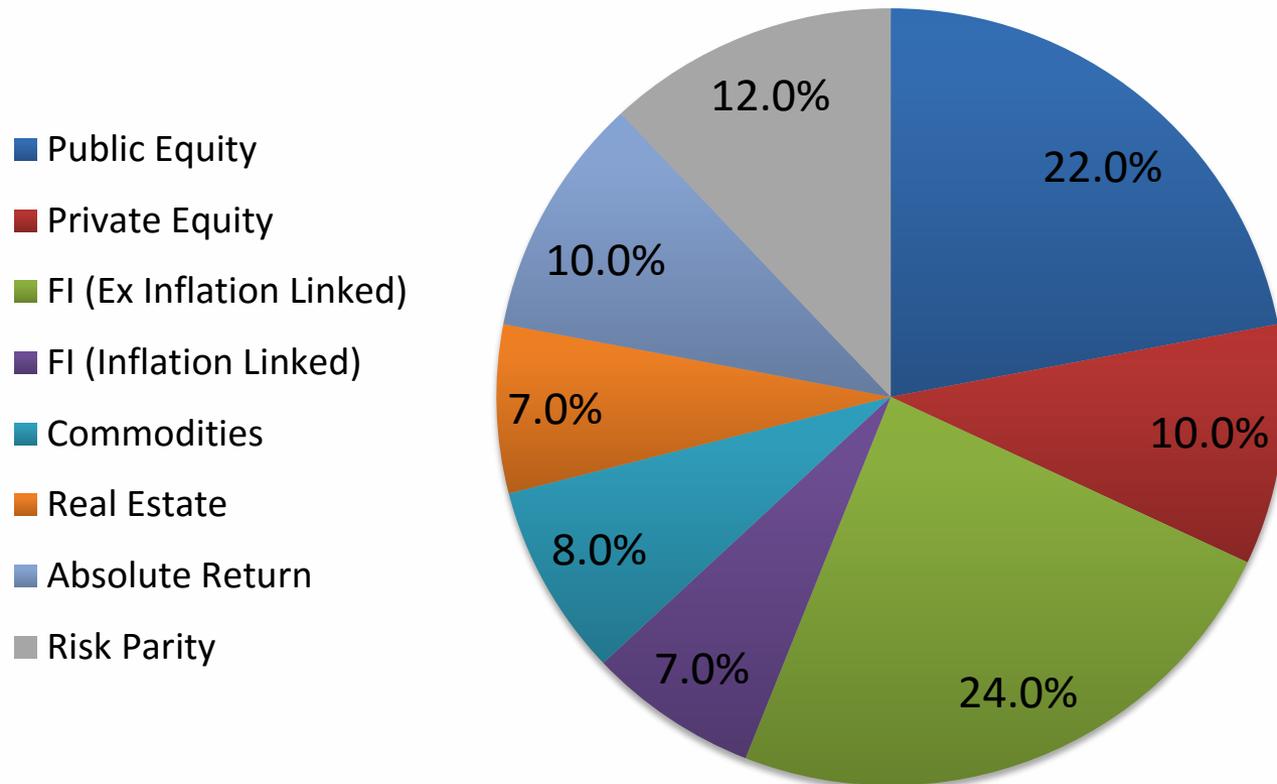
“The board shall invest its assets with the care, skill, prudence, and diligence that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character with like aims. The board also shall diversify investments in accordance with prudent investment standards”

- 1) Understand liabilities, cash flows & profile of employers
- 2) Understand stakeholders' risk tolerance
- 3) Analyze various asset allocations vs. INPRS' objectives
 - Mean Variance Optimization based on established principles of Modern Portfolio Theory
 - Run as many historical scenarios & stress tests as possible
 - Seek input from the best asset allocators across the globe
- 4) Select target asset allocation & ranges for asset classes
- 5) Avoid “knee-jerk” portfolio changes (*volatility & scary headlines are normal*)

Diversification means you're always saying “sorry” for something.

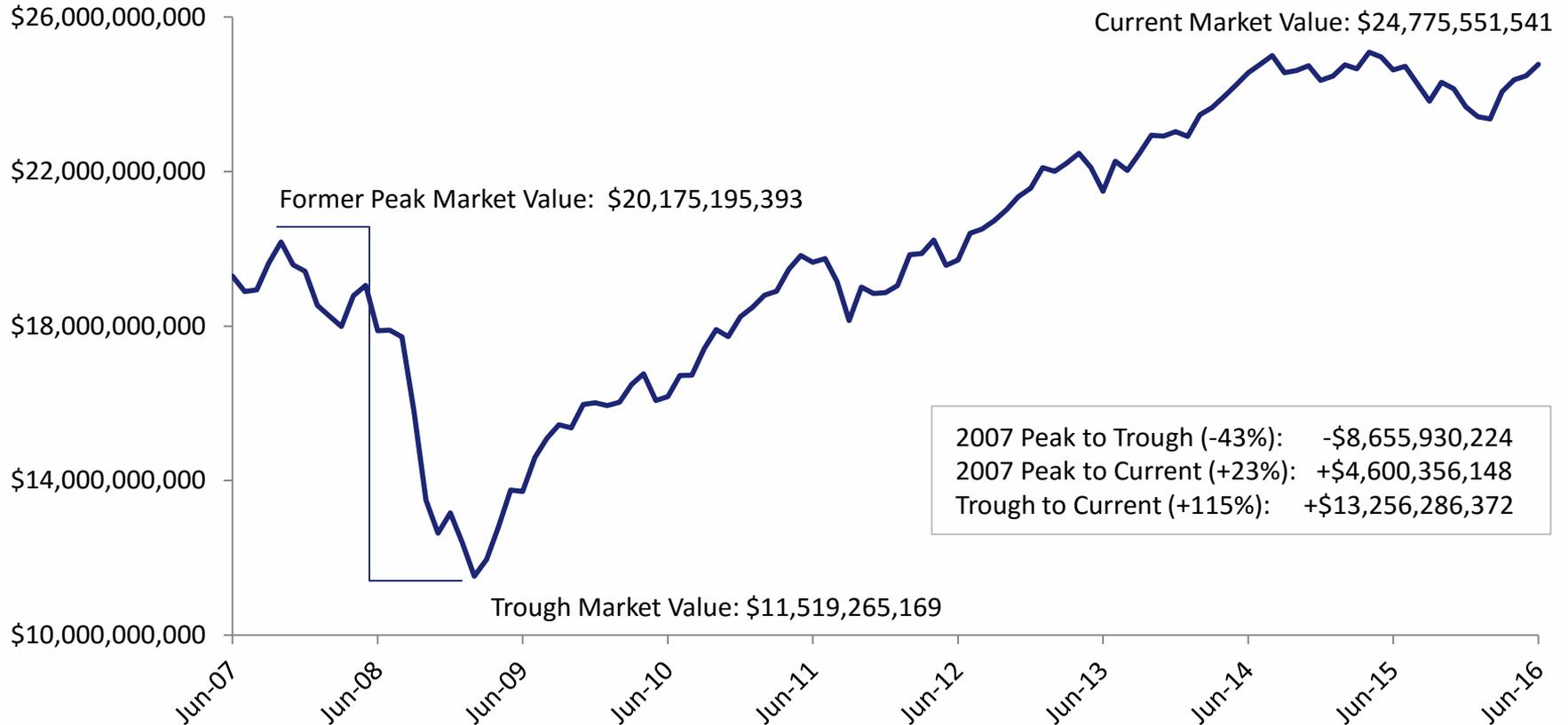
Defined Benefit Target Asset Allocation

No changes from the asset-liability study in FY15



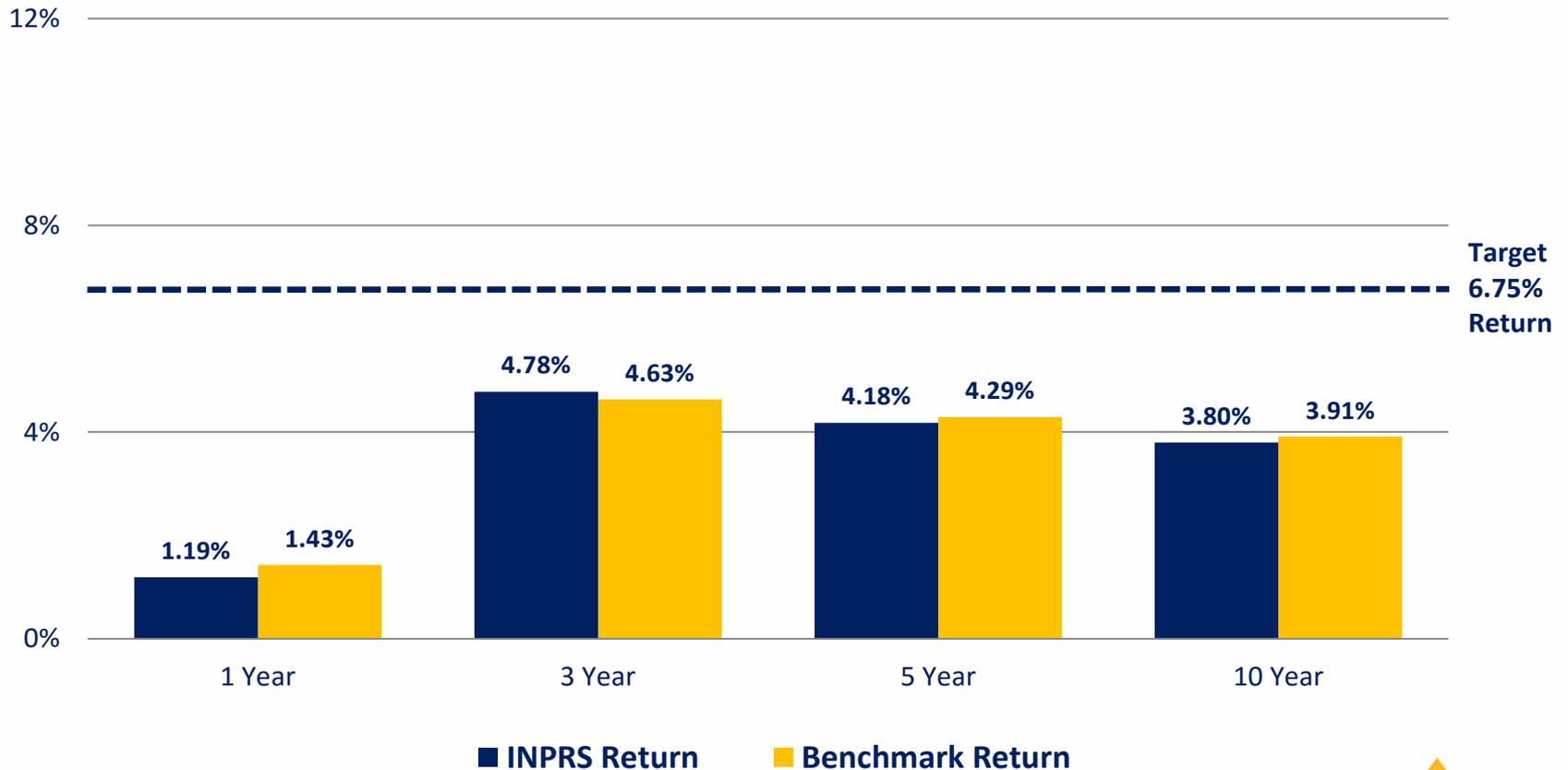
Defined Benefit Balance Through Time

INPRS DB Market Value (As of 6/30/2016)



Defined Benefit Performance vs. Benchmarks

Annualized Net of Fee Returns as of 6/30/16



Annuity Savings Account (ASA) Philosophy

1) Keep it simple

Reducing complexity & number of investment options believed to lead to better outcomes based on research from leading DC experts

2) Keep it cheap

Leverage the size of the Defined Benefit assets to lower the fees across investment options

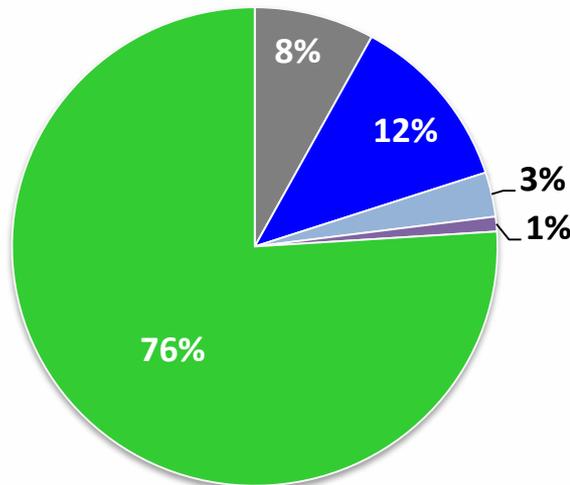
3) Have a diversified default option

Most members elect to stay invested in the default option through retirement

Annuity Savings Account (ASA) Fund Allocation

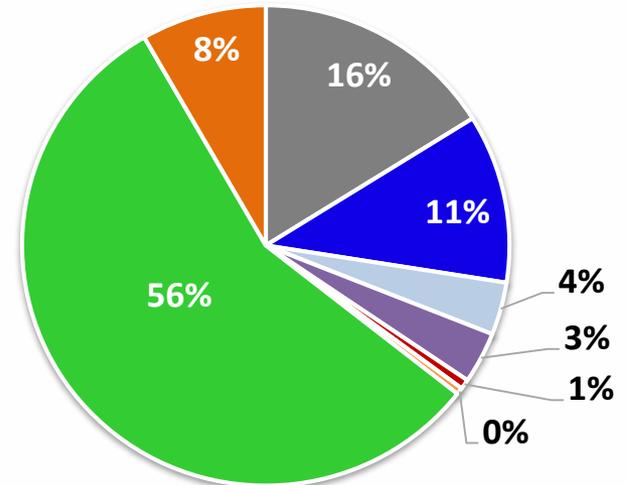
2007

- Large Cap Equity Index Fund
- Small/Mid Cap Equity Fund
- International Equity Fund
- Fixed Income Fund
- Guaranteed Fund



2016

- Large Cap Equity Index Fund
- Small/Mid Cap Equity Fund
- International Equity Fund
- Fixed Income Fund
- Inflation-Linked Fixed Income Fund
- Guaranteed Fund
- Money Market Fund
- Target Date Funds



Unfunded Liabilities

A Year in Review

- No changes in actuarial assumptions in FY16
- Two changes in actuarial methods in FY16
 - Amortization periods shortened from 30 years to 20 years for most funds
 - 5-year asset smoothing in lieu of 4-year asset smoothing

\$ In Millions

INPRS Unfunded Liability- 6/30/15	\$15,946.1
Low Investment Return	416.0
13th Check vs. COLA - PERF & TRF	(139.7)
Contributions	(355.4)
Demographics / Other ¹	212.2
INPRS Unfunded Liability- 6/30/16	\$16,079.2

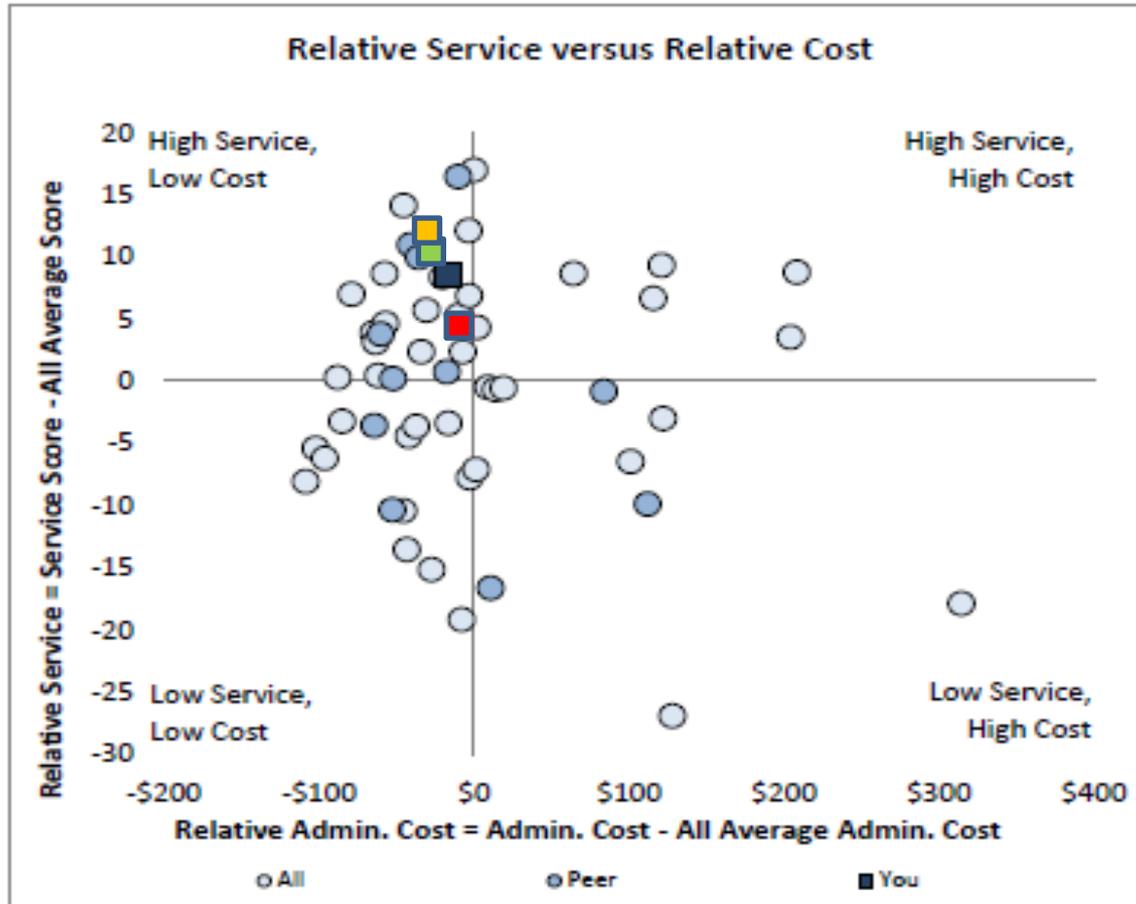
¹ Includes demographic gains/losses, lower COLA in the 1977 Fund and slightly higher COLA for Judges.

Funded Status as of June 30, 2016

\$ in Millions

Defined Benefit Retirement Plans	Actuarial Valuation as of June 30, 2016				Actuarial Valuation as of June 30, 2015			
	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Status	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability	Funded Status
PERF	\$ 18,408.9	\$ 14,553.0	3,855.9	79.1%	\$ 17,980.6	\$ 14,131.9	3,848.7	78.6%
TRF 1996 Account	6,391.8	5,865.8	526.0	91.8%	5,905.7	5,461.2	444.5	92.5%
1977 Fund	5,039.8	5,255.2	(215.4)	104.3%	4,680.7	4,939.3	(258.6)	105.5%
Judges	501.1	469.4	31.7	93.7%	468.9	447.5	21.4	95.4%
EG&C Plan	138.9	118.5	20.4	85.3%	132.8	112.8	20.0	84.9%
PARF	85.0	56.4	28.6	66.4%	77.9	54.9	23.0	70.4%
LEDB Plan	4.0	3.2	0.8	80.7%	4.3	3.3	1.0	77.1%
Aggregate Pre-Funded Plans	\$ 30,569.5	\$ 26,321.5	\$ 4,248.0	86.1%	\$ 29,250.9	\$ 25,150.9	\$ 4,100.0	86.0%
TRF Pre-1996 Account (Pay-As-You-Go)	16,840.2	5,009.0	11,831.2	29.7%	17,017.7	5,171.6	11,846.1	30.4%
Aggregate All INPRS Plans	\$ 47,409.7	\$ 31,330.5	\$ 16,079.2	66.1%	\$ 46,268.6	\$ 30,322.5	\$ 15,946.1	65.5%

INPRS Is Higher In Service & Lower In Cost Relative To Our Peer Group



- Est. FY 16
- FY15
- FY14
- FY13

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Teachers' Retirement Fund (TRF) Pre-1996 Account Update – PSF Only

- 3% year-over-year appropriations growth for FY2017 – FY2019

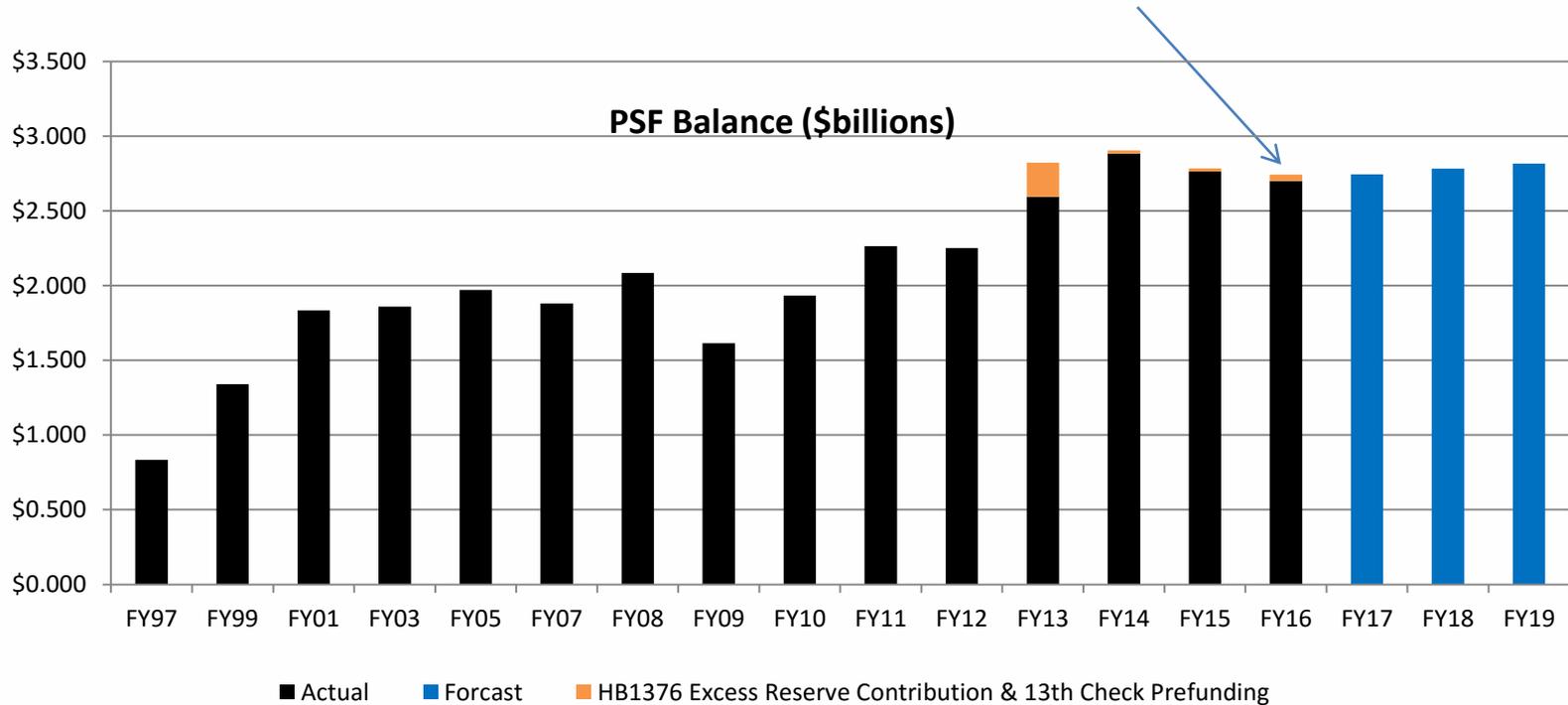
<i>\$ Millions</i>	<u>Actual FY13</u>	<u>Actual FY14</u>	<u>Actual FY15</u>	<u>Actual FY16</u>	<u>Forecast¹ FY17</u>	<u>Forecast¹ FY18</u>	<u>Forecast¹ FY19</u>
Total:							
Benefit Payments	(\$873.4)	(\$916.7)	(\$972.8)	(\$989.7)	(\$1,042.9)	(\$1,047.3)	(\$1,075.5)
General Fund Appropriations	\$747.2	\$776.3	\$792.8	\$816.5	\$841.0	\$866.2	\$892.2
Amount Withdrawn from PSF	(\$126.2)	(\$140.4)	(\$180.0)	(\$173.2)	(\$201.9)	(\$181.1)	(\$183.3)
Lottery Transfer	\$30.0	\$30.0	\$32.5	\$30.0	\$30.0	\$30.0	\$30.0
Other Income	\$13.6	\$3.2	\$5.8	\$5.0	\$2.4	\$7.2	\$7.1
Investment Gains / (Losses)	\$142.5	\$376.8	\$0.8	\$34.4	\$182.3	\$183.2	\$185.8
13th Check Prefunding ²	\$19.6	\$19.3	\$20.3	\$41.0	-	-	-
State Excess Reserve Income	\$206.8	-	-	-	-	-	-
Closeout: COLA Reserve Account	\$58.7	-	-	-	-	-	-
PSF Balance	\$2,595.5	\$2,884.4	\$2,763.8	\$2,701.0	\$2,713.8	\$2,753.1	\$2,792.7

¹ Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 forecast benefit payments could change.

² 13th Check: FY16 - \$20.3M & FY 17 \$20.7M

TRF Pre-'96 Pension Stabilization Fund

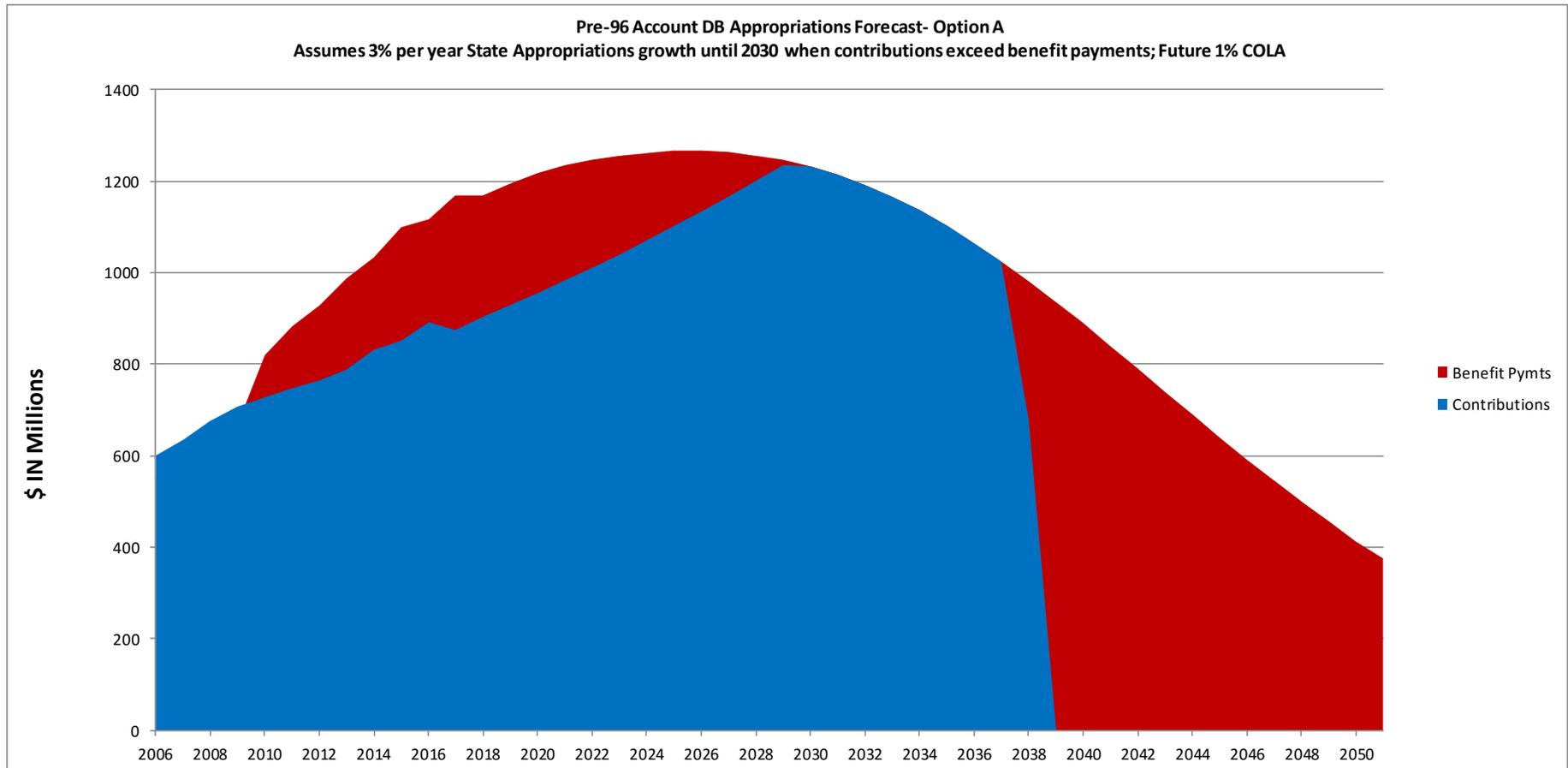
Balance as of June 30, 2016 = \$2.7B



Long Term TRF Pre-'96 Funding Options

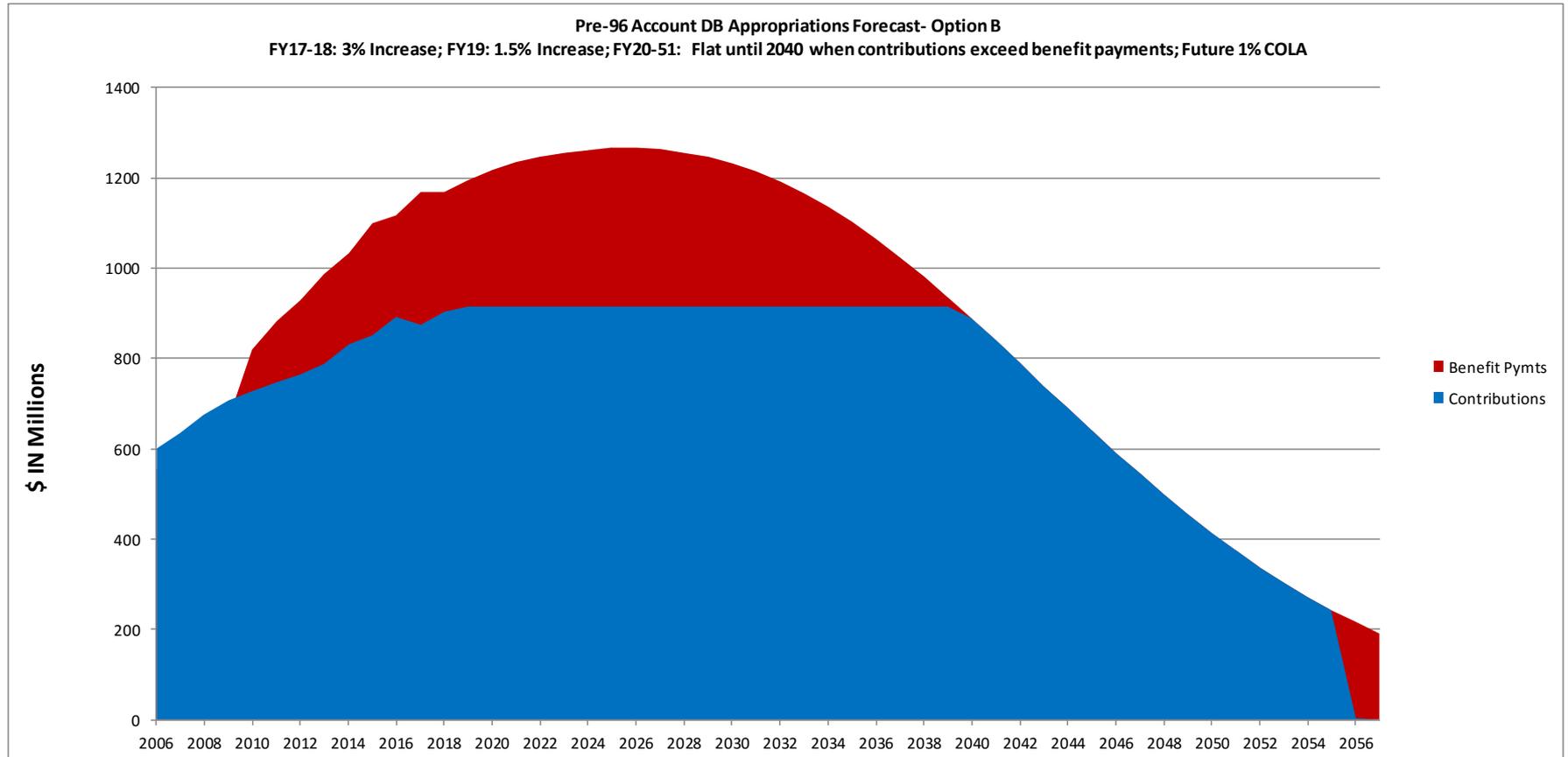
- While near term GF appropriations should maintain 3% growth, the legislature will have options in the future
 - Option A – Maintain 3% appropriations growth until 100% funded
 - Option B – Manage appropriations to maintain positive PSF balance

Teachers' Retirement Fund (TRF) Pre-'96 Account Forecast – Option A – PSF and ASA Annuities*



*Based on the 6/30/2016 Valuation, includes both Pension Benefit Payout, PSF Assets and ASA Annuities

Teachers' Retirement Fund (TRF) Pre-'96 Account Forecast – Option B – PSF and ASA Annuities*



*Based on the 6/30/2016 Valuation, includes both Pension Benefit Payout, PSF Assets and ASA Annuities

Pension Relief

Established in 1977 to help cities and towns with the costs of legacy police and firefighter retirement plans

\$ in millions

	FY2012 Actual	FY2013 Actual	FY2014 Actual	FY2015 Actual	FY2016 Actual	FY2017 Forecast	FY2018 Forecast	FY2019 Forecast
<u>Additions</u>								
General Fund Appropriation (State)		\$ 180.0	\$ 145.0	\$ 175.0	\$ 155.0	\$ 160.0	\$ 150.0	\$ 145.0
Lottery (State)		30.0	30.0	32.5	30.0	30.0	30.0	30.0
Cigarette Tax (State)		24.7	23.8	23.4	23.6	23.5	23.5	23.5
Alcohol Tax (State)		3.4	3.4	3.6	3.7	3.7	3.7	3.7
Public Deposit Insurance Fund (PDIF)		0.5	0.2	0.0	0.0	0.0	0.0	0.0
Investment Income		0.1	0.1	0.1	0.3	0.1	0.1	0.1
Total Additions		\$ 238.7	\$ 202.5	\$ 234.6	\$ 212.6	\$ 217.3	\$ 207.3	\$ 202.3
<u>Deductions</u>								
Pension Relief Distributions		\$ 219.8	\$ 219.4	\$ 217.7	\$ 215.8	\$ 212.4	\$ 211.3	\$ 209.5
Death Benefits		0.3	0.3	0.6	0.0	0.3	0.3	0.3
Other (Local Unit Withdrawals & Admin. Expenses)		0.4	2.2	0.5	0.0	0.1	0.1	0.1
Total Deductions		\$ 220.5	\$ 221.9	\$ 218.8	\$ 215.8	\$ 212.8	\$ 211.7	\$ 209.9
Pension Relief Fund Balance	\$ 18.4	\$ 36.6	\$ 17.2	\$ 33.0	\$ 29.8	\$ 34.3	\$ 29.9	\$ 22.3
Memo: Local Unit Balances	\$ 4.5	\$ 4.2	\$ 2.1	\$ 1.6	\$ 1.7	\$ 1.6	\$ 1.5	\$ 1.5

PERF / TRF COLAs & 13th Checks

- COLAs are not free! (a one-time 1% PERF & TRF COLA = \$195M)
 - Increase from \$162M in FY15 primarily due to members living longer and a higher number of retirees
- “13th Checks” aren’t free either, but are cheaper than COLAs (\$55M)
- Actuaries factor in ad-hoc COLAs based upon historical experience. The actuaries currently assume a 1% annual COLA. Each 1% of COLA cumulatively equals
 - Approximately \$2.8B of PERF/TRF liabilities
 - 4.1 percentage point change in funding ratio
 - 2.39 and 1.83 percentage points of the PERF and TRF contribution rates respectively
- When the General Assembly grants a COLA / 13th Check, there is a cost to both state and local units of government including schools
 - For all but the TRF Pre-’96 account, COLAs are funded by the employer as part of their contribution rate (1% COLA = \$86.6M, 13th Check = \$33.0M)
 - For the TRF Pre-’96 account, COLAs and 13th checks are funded directly from the state general fund (1% COLA = \$108.4M, 13th Check = \$21.7M)

National Trends

- Funding levels are stabilizing, but experience varies widely among plans
- Assumptions for inflation and investment returns continue to decrease
- Liability growth rates remain low due to historically lower hiring and salary growth
- Costs have risen and will remain high for some plans. State and local government spending for pensions in FY13 was 4.1% of general spending
 - Ranged from 1.6% to 8.0%. Indiana was 4.2%
- The pace of pension reforms has slowed considerably. Five plans implemented reform in FY15 versus a peak of 27 in 2011. Most reforms included higher employee contribution rates and higher retirement ages for new hires.

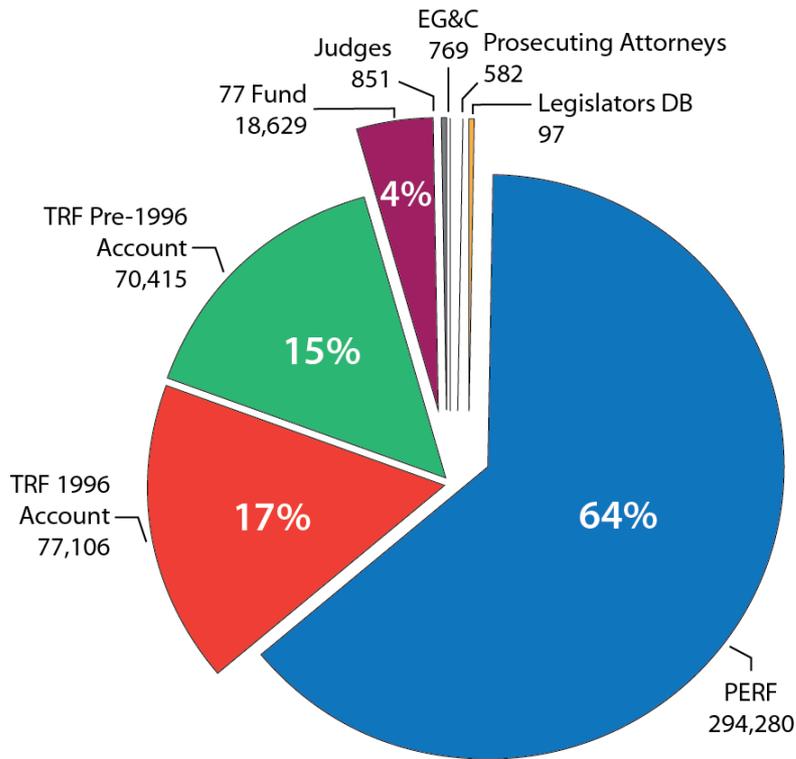
APPENDIX

Overview – Member Demographics

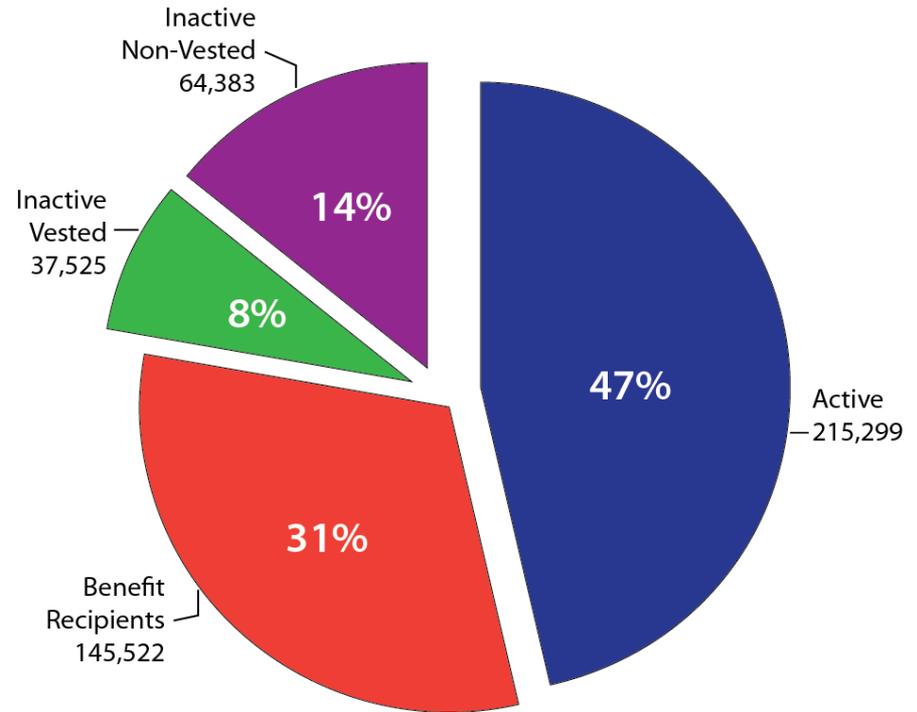
(as of June 30, 2016)

462,000+ Members

Members by Fund



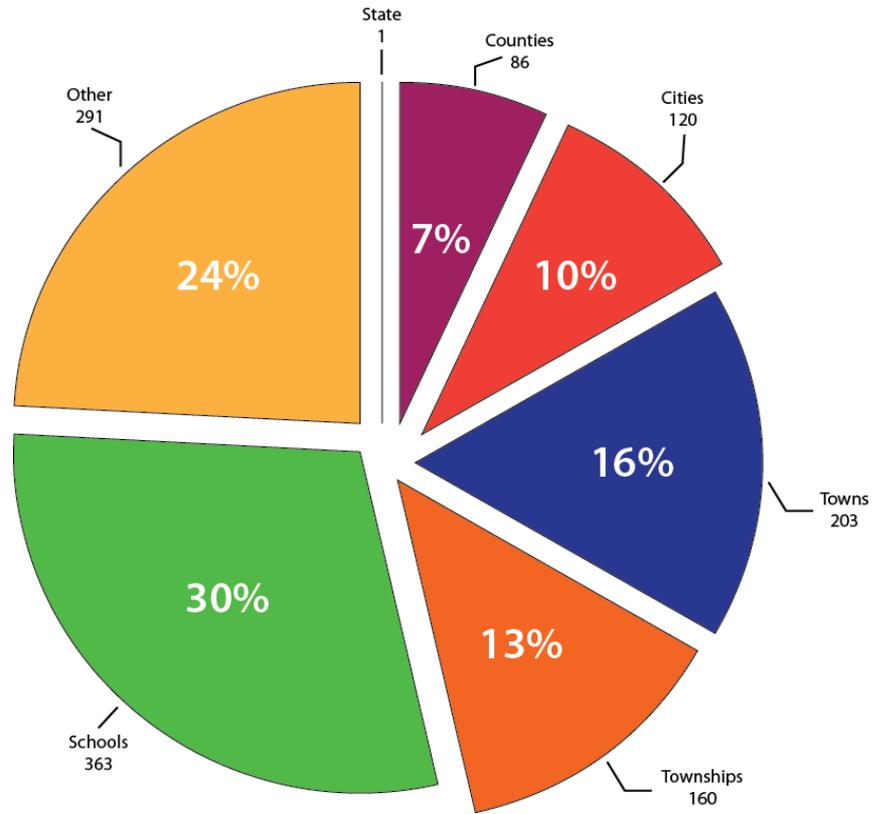
Members by Status



Overview—Employer Demographics

(as of June 30, 2016)

1,200+ Employers



Where does the money come from?

Indiana Pension Receipts 1993 - 2012

Employers: 48%

Investment Earnings: 35%

Employees:
17%



Source: National Institute On Retirement Security - Pensionomics 2014

FY16 INPRS Contributions (ADC)

\$ in Thousands

Defined Benefit Retirement Plans	FY2016 (Actual Payroll Based Adj)			FY2015 (Actual Payroll Based Adj)		
	Actuarial Determined Contribution (ADC) Adj for Actual Payroll	GF Appropriation/ Employer/ Other Contributions ¹	Percentage Contributed	Actuarial Determined Contribution (ADC) Adj for Actual Payroll	GF Appropriation/ Employer/ Other Contributions ¹	Percentage Contributed
PERF	\$ 490,538	\$ 547,684	111.6%	\$ 517,717	\$ 536,203	103.6%
TRF 1996 Account	\$ 180,375	\$ 215,626	119.5%	\$ 178,260	\$ 205,526	115.3%
1977 Fund	\$ 113,353	\$ 151,299	133.5%	\$ 118,881	\$ 146,384	123.1%
Judges	\$ 17,485	\$ 16,946	96.9%	\$ 18,865	\$ 21,020	111.4%
EG&C Plan	\$ 4,078	\$ 5,297	129.9%	\$ 4,820	\$ 5,215	108.2%
PARF	\$ 1,381	\$ 1,440	104.3%	\$ 1,419	\$ 1,063	74.9%
LEDB	\$ 138	\$ 138	100.0%	\$ 119	\$ 131	110.1%
Aggregate Pre-Funded Plans	\$ 807,348	\$ 938,430	116.2%	\$ 840,081	\$ 915,542	109.0%
TRF Pre-1996 Account (Pay-As-You-Go)	\$ 851,548 ²	\$ 851,548	100.0%	\$ 851,427 ²	\$ 851,427	100.0%
Aggregate All INPRS Plans	\$ 1,658,896	\$ 1,789,978	107.9%	\$ 1,691,508	\$ 1,766,969	104.5%

¹ Excludes member ASA contributions, Soft Freeze Payments and Pre-Funded 13th Check.

² TRF Pre-1996 Appropriation is determined by State Statute & is therefore shown in lieu of ADC.

2017 Board Approved Contribution Rates vs. the Actuarial Determined Contribution

\$ In Thousands

Defined Benefit Retirement Plans	2017 Board Approved Contribution Rates	2017 Actuarially Determined Contribution (ADC) Rates
PERF		
State ¹	11.20%	10.11%
Political Subdivision ²	11.20%	9.76%
TRF 1996 Account ¹	7.50%	6.57%
1977 Fund ²	17.50%	8.54%
EG&C Plan ²	20.75%	13.93%
Judges ¹ - Appropriation*	\$16,824	\$13,324
PARF ¹ - Appropriation	\$1,486	\$2,170
LEDB ¹ - Appropriation	\$135	\$170
TRF Pre-1996 Account ¹ - Appropriation	\$841,000	\$841,000

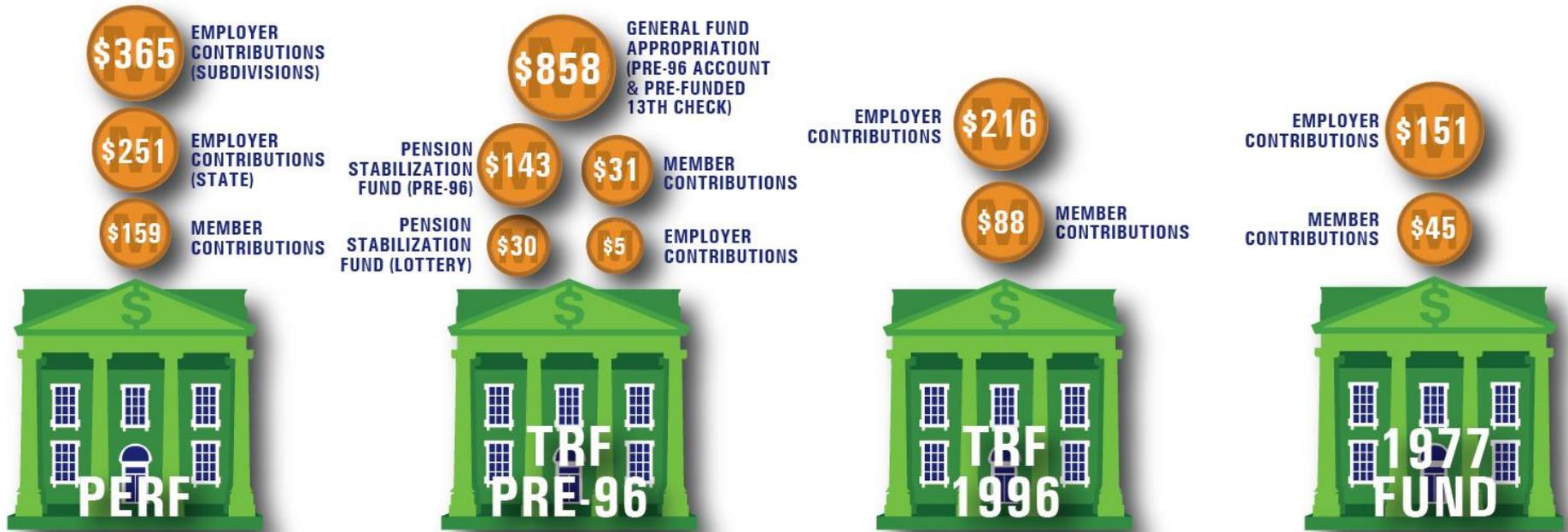
¹ Approved Funding Rates become effective July 1st, 2016

² Approved Funding Rates become effective January 1st, 2017

* Includes Court Docket Fees of \$7,153

INPRS' Contribution Sources – FY 2016

107.9% of Actuarial Determined Contributions (ADC) Paid in FY16



INPRS' Contribution Sources – FY 2016

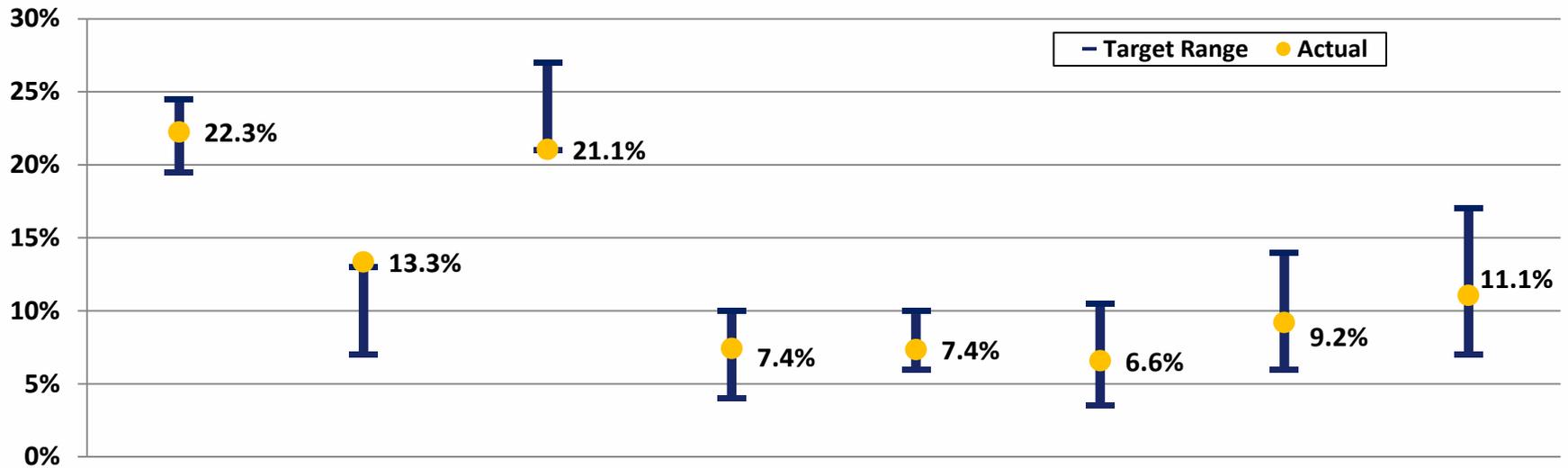


Purposes of the Asset Classes Outside of Stocks & Bonds

Private Equity	To provide risk-adjusted returns in excess of public equity markets through various strategies (e.g. operational improvements to the invested companies).
Real Estate	To provide attractive risk-adjusted returns by producing stable income and preserving capital. It also serves as a diversifier and protection against inflation in certain environments.
Absolute Return	To provide unique, diversifying return streams and reduce volatility by utilizing strategies that are less constrained.
Commodities	To provide protection when inflation is higher than expected and linked to goods / inputs.

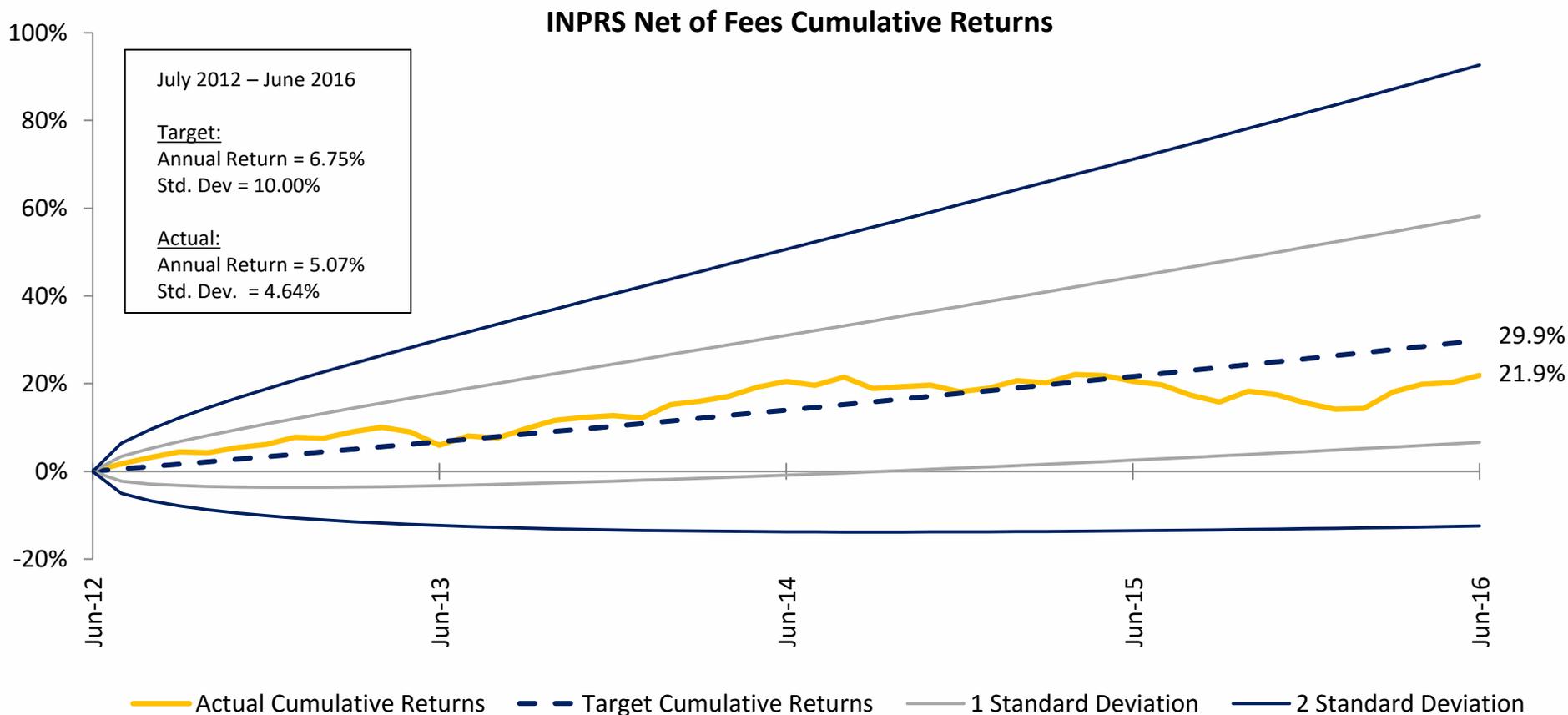
Asset Allocation & Performance

As of 6/30/16



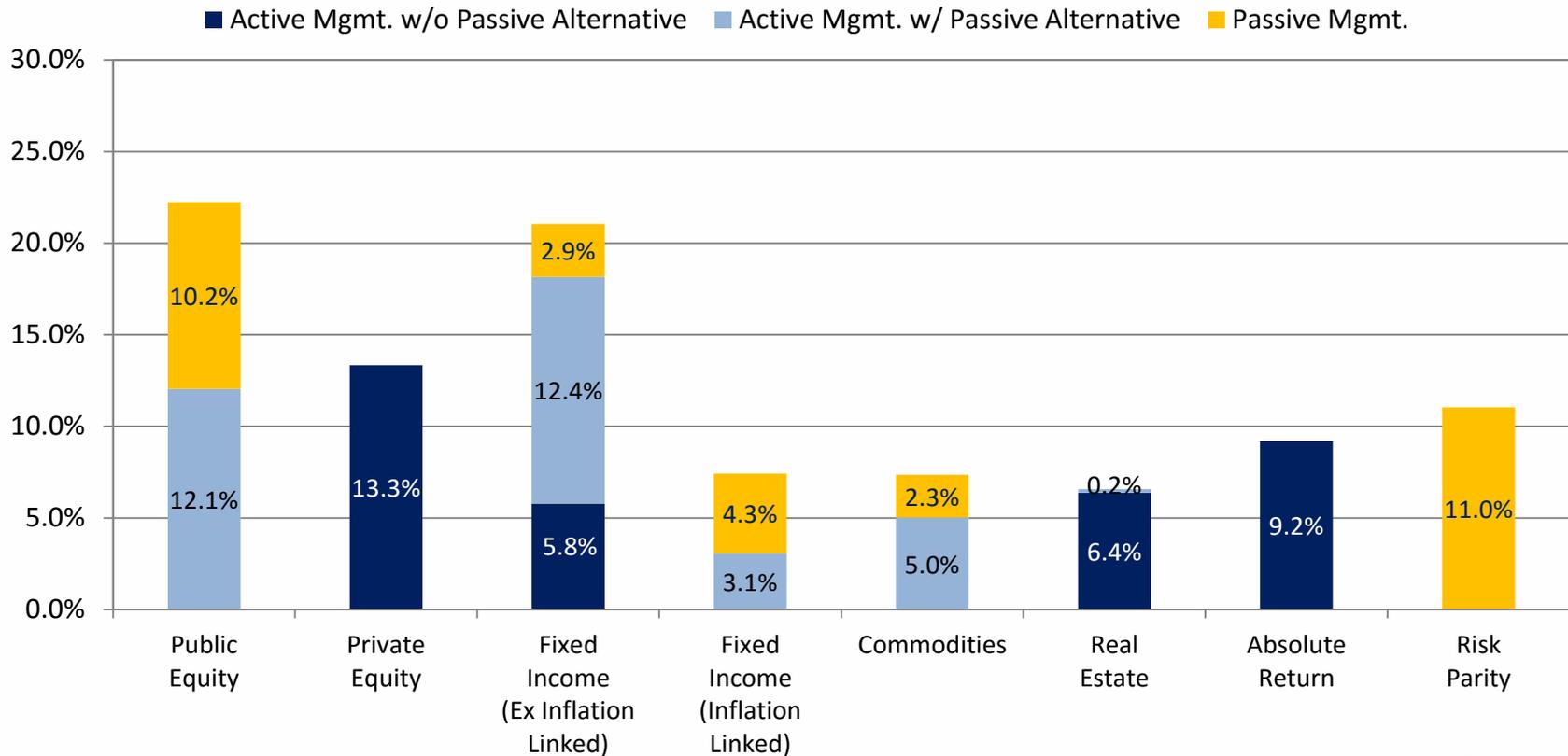
	Public Equity	Private Equity	Fixed Income (Ex Inflation-Linked)	Fixed Income (Inflation-Linked)	Commodities	Real Estate	Absolute Return	Risk Parity
1 Year Return	-4.31%	6.81%	8.94%	5.36%	-19.61%	8.09%	-2.87%	1.69%
3 Year Return	6.27%	12.33%	5.80%	3.51%	-14.20%	9.64%	3.61%	4.75%
5 Year Return	5.88%	12.13%	4.89%	3.50%	-11.82%	10.33%	2.97%	
10 Year Return		9.42%	5.97%	5.27%		5.61%	3.09%	

Defined Benefit Performance vs. 6.75% Objective



INPRS' Split Between Active & Passive Portfolios

INPRS will conduct a review of active/passive exposures during FY17



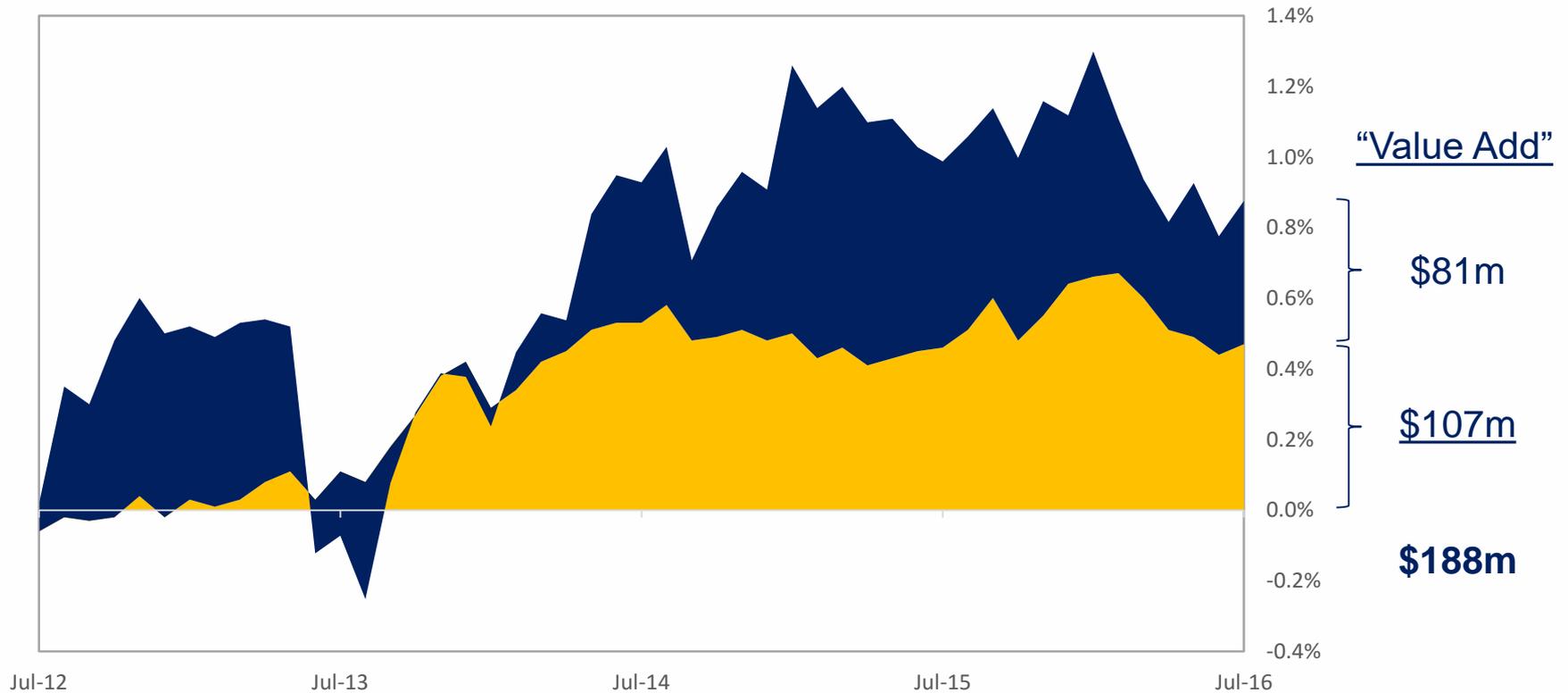
Actual asset allocation as of June 30, 2016. Cash excluded from the analysis.

INPRS DB “Value Add”

July 2012 – July 2016

INPRS Net of Fees Cumulative Excess Returns over the Target Index

■ Cumulative Asset Allocation Value Add ■ Cumulative Manager Selection Value Add



FY16 Defined Benefit

Investment Management & Performance Fees¹

0.64% of INPRS' Total DB Market Value²

\$11.0M	Passive Fees
+ \$34.5M	Active Mgmt. + Performance Fees in Public Asset Classes ³
+ <u>\$110.8M</u>	<u>Alternative Asset Class Mgmt. + Performance Fees⁴</u>
= \$156.3M	Total INPRS Investment Mgmt. + Performance Fees

CEM Benchmarking, an industry-leader in evaluating the efficiency of public pensions, analyzed INPRS' CY14 investment management fees.

- ✓ *INPRS' fees were slightly lower than peers after adjusting for asset allocation differences between plans*
- ✓ *INPRS outperformed its benchmark more than peers (net of all fees) & added \$291M of value to the plan*

¹ Unaudited estimates.

² Based on average market values of the individual portfolios throughout the year.

³ Includes performance fees for Public Equity and Fixed Income asset classes.

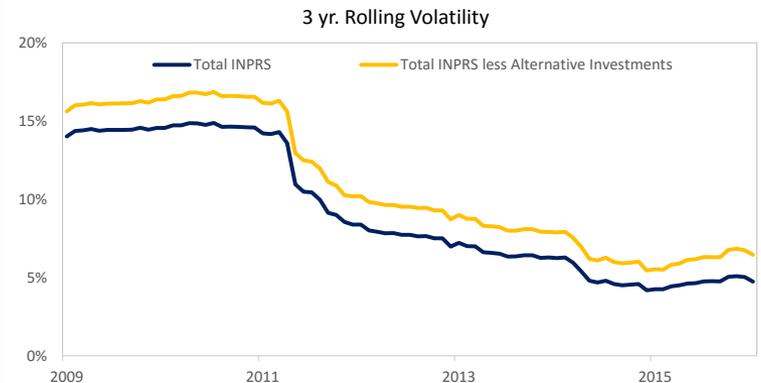
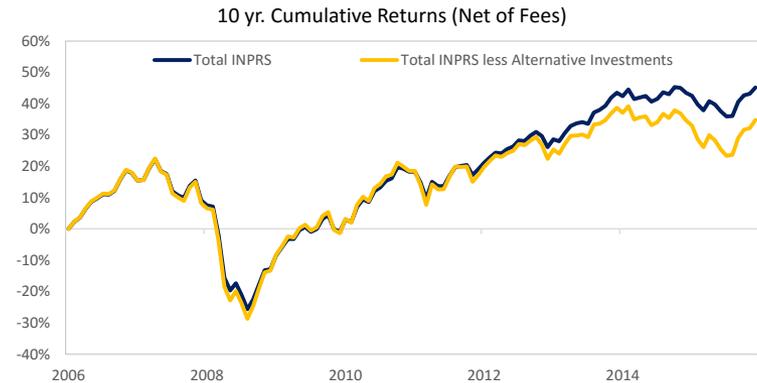
⁴ Includes performance fees for Absolute Return asset class.

Alternative Investments

Although more expensive than merely investing in public markets, alternative investments¹ have had two positive results:

INPRS' total returns have been higher than they would have been without alternative investments²...

...and INPRS' total volatility has been lower because of them.



¹ Alternative investments includes Private Equity, Real Estate, and Absolute Return.

² Assumed that any allocation to alternative investments would have been allocated pro-rata to the remaining asset classes based on INPRS' asset allocation.

INPRS' Return Projections

	INPRS' Target Weight ¹	Projected 10-yr Returns ² (June 30, 2016)
U.S. Inflation		2.0%
U.S. Large Cap Stock	10.3%	5.9%
U.S. Small Cap Stock	0.9%	5.2%
Int'l Developed Mkt Stock	8.4%	9.2%
Emerging Mkt Stock	2.4%	11.3%
Private Equity	10.0%	8.2%
Fixed Income	24.0%	5.2%
Inflation-Linked Bonds (TIPS)	7.0%	2.7%
Commodities	8.0%	4.0%
Real Estate	7.0%	4.7%
Hedge Funds	10.0%	6.0%
Risk Parity	12.0%	7.0%
10-yr Projected Return		6.60%
30-yr Projected Return		6.57 – 6.87%

¹Approved at the June 2015 INPRS Board meeting.

²Source: Verus. Annualized, geometric returns. Due to the historically low interest rates and slow growth across the globe, expectations remain low.

ASA Performance (Net of Fees) As of June 30, 2016

	Market Value (\$MM)	% of ASA	1 Year	3 Year	5 Year ¹
Large Cap Equity Index Fund <i>S&P 500 Index</i>	826	16.1	3.99 <i>3.99</i>	11.64 <i>11.66</i>	12.09 <i>12.10</i>
Small/Mid Cap Equity Fund <i>Russell Small Cap Completeness Index</i>	582	11.3	-4.82 <i>-5.22</i>	7.97 <i>8.59</i>	8.84 <i>9.34</i>
International Equity Fund <i>MSCI ACWI ex US</i>	181	3.5	-8.94 <i>-10.24</i>	2.44 <i>1.16</i>	0.94 <i>0.10</i>
Fixed Income Fund <i>Barclays Aggregate</i>	178	3.5	5.35 <i>6.00</i>	3.95 <i>4.06</i>	4.06 <i>3.76</i>
Inflation Linked Fixed Income Fund <i>Barclays US TIPS Index</i>	34	0.7	3.55 <i>4.35</i>	2.03 <i>2.31</i>	2.53 <i>2.63</i>
Stable Value Fund² <i>Citi 3 Month T-Bill Index</i>	1	0.0	1.42 <i>0.14</i>	2.18 <i>0.07</i>	2.48 <i>0.06</i>
Money Market Fund <i>Citi 3 Month T-Bill Index</i>	23	0.5	0.29 <i>0.14</i>	0.15 <i>0.07</i>	0.14 <i>0.06</i>
Guaranteed Fund³ <i>Payout Rate</i>	2874	56.0	1.92 <i>0.46</i>	1.70 <i>0.35</i>	1.72 <i>0.61</i>
Consolidated DB Assets⁴ <i>Combined PERF TRF BM</i>	9	0.2	0.31 <i>1.43</i>	4.30 <i>4.63</i>	3.96 <i>4.29</i>
Target Date Funds⁵	426	8.3			
TOTAL ASA ASSETS⁶	5,134	100.0			

¹All returns are hypothetical composite returns, with the exception of the Stable Value Fund and Consolidated DB Assets, which are actual. ²Only available as a stand-alone option in the ASA only and LEDC plans, but is a component of the target date funds. ³Guaranteed Fund assets are invested in short duration fixed income. ⁴Only available in the LEDC plan. ⁵Returns and indices are on the Target Date Funds Performance slide. ⁶Total assets in the PERF, TRF and LEDC plans.

Target Date Funds Performance (Net of Fees) As of June 30, 2016¹

	Market Value (\$MM)	% of Target Date Funds	1 Year	3 Year	5 Year
2060 Fund <i>2060 Fund Index</i>	2	0.4	-1.12 -1.55	5.65 5.19	5.50 4.90
2055 Fund <i>2055 Fund Index</i>	51	11.9	-1.14 -1.55	5.61 5.18	5.18 4.81
2050 Fund <i>2050 Fund Index</i>	56	13.1	-1.14 -1.55	5.61 5.18	5.18 4.81
2045 Fund <i>2045 Fund Index</i>	39	9.2	-1.14 -1.55	5.61 5.18	5.18 4.81
2040 Fund <i>2040 Fund Index</i>	40	9.4	-1.16 -1.55	5.60 5.18	5.17 4.81
2035 Fund <i>2035 Fund Index</i>	47	11.1	-0.74 -1.02	5.65 5.28	5.18 4.86
2030 Fund <i>2030 Fund Index</i>	48	11.3	1.08 1.10	5.52 5.28	5.00 4.75
2025 Fund <i>2025 Fund Index</i>	57	13.5	2.15 2.30	4.86 4.64	4.61 4.32
2020 Fund <i>2020 Fund Index</i>	61	14.2	2.55 2.66	4.16 3.85	4.14 3.71
Retirement Fund <i>Retirement Fund Index</i>	25	5.8	3.03 3.07	3.28 2.78	3.46 2.73
TOTAL TARGET DATE FUNDS	426	100			

¹The assets in the PERF, TRF and LE plans were merged on 4/1/2013. Prior to 4/1/2013, all data presented is calculated from manager composite performance.

FY16 Strategic Plan Accomplishments

- Achieved 56 of 58 (97%) of our annual key operational requirements
 - Missed our 6.75% Defined Benefit pool rate of return on a 1, 3, 5 and 10-year basis
 - Monthly financial closings completed by the 12th business day of each month were not consistently achieved
- Completed or on track with 89% of 47 long-term strategic objectives
 - Leveraged quality management tools to improved member experiences
 - Improved call center performance
 - Improved website satisfaction
 - Increased use of member online tools
 - Increased member awareness of ASA
 - Implemented ASA Only for PERF local units
 - Reached agreements with PERF “soft freeze” employers
 - Improved software quality assurance capabilities
 - Improved IT security and disaster recovery capabilities
 - Recordkeeping and ASA annuities transition program is underway

FY 2017 Top 5 Strategic Objectives

1. Complete implementation of FY 2015 and FY 2016 Legislative changes to INPRS systems to maintain compliance
 - Soft Freeze
 - Debit Cards
 - Elimination of Guaranteed Fund, introduction of Stable Value Fund
2. Successfully execute an Integrated Vendor Business Model that optimizes service
(Custodian - Benefit Payroll - ASA Record Keeping - ASA Annuity- Call Center- Website)
3. Move the ASA portion of the defined benefit plans to a defined contribution plan, ensuring compliance with IRS regulations and determining cost allocation split
4. Evaluate implementation of an internal investment management program
5. Enhance Data Integrity and Security

ASA Only Plan For PERF Political Subdivisions

- 2014 HEA1466 created an optional ASA Only Plan for PERF political subdivisions (PSDs)
 - PSDs are able to offer ASA Only, Hybrid, or a choice between ASA Only and Hybrid to new hires
- The ASA Only Plan provides PERF PSDs control over their contribution rates
 - A mandatory 3% contribution must be paid by the employer, employee or shared by the employer and employee (same as today)
 - Employer is also required to pay the supplemental rate which funds the unfunded liability in the PERF Hybrid plan (7.2% effective 1/1/17). Employers pay this amount to INPRS, not the employee's ASA
 - New employers who have never offered PERF Hybrid, but who choose to offer only the ASA Only plan will not have to pay the supplemental rate
 - Employers can pay a supplemental contribution into an employee's ASA from 0 percent to the normal cost percent (4.0% effective 1/1/17)
- 5 employers enrolled in the ASA Only Plan as of July 1, 2016
 - 2 employers are only offering ASA Only to new hires
 - 3 employers are offering new hires a choice between PERF ASA Only and PERF Hybrid
 - 155 employers have attended informational seminars

FY16 Year End Performance and Year Over FY 15 Trend

Portfolio Performance

DB Rate of Return		
DB Sharpe Ratio		
Fees Below Peer Median		
ASA - Rate of Return		

Process

Call Center Performance		
Cash Distributions on Time		
Unmodified Audit Opinion		
Pending Code Changes		

Learning/Growth & Risk

Employee Engagement		
Audit Findings		
Compliance		

Customer and Financial

Funded Status -- Prefunded plans		
Actuarial Determined Contributions		
Employer Contributions		
Cost per Member		
Performance to Budget		
Customer Complaints		
Benchmark Service Score		
Dissatisfaction Red Flags		

COLAs

	<u>Ad-Hoc</u>	<u>Auto</u>
PERF	✓	
TRF	✓	
'77 Police & Fire		✓
Judges		✓
Excise, Gaming & Conservation Officers	✓	
Prosecuting Attorneys	✓	
Legislators DB	✓	
Legislators DC		N/A

Auto COLA History

1977 Police and Fire (CPI, Max. 3%)

<u>7/1/2006</u>	<u>7/1/2007</u>	<u>7/1/2008</u>	<u>7/1/2009</u>	<u>7/1/2010</u>	<u>7/1/2011</u>	<u>7/1/2012</u>	<u>7/1/2013</u>	<u>7/1/2014</u>	<u>7/1/2015</u>	<u>7/1/2016</u>
3.0%	2.4%	3.0%	0.0%	2.4%	2.1%	2.8%	1.7%	1.4%	0.0%	1.1%

Judges '77 System (Whenever salary of the position changes)

<u>7/1/2006</u>	<u>7/1/2007</u>	<u>7/1/2008</u>	<u>7/1/2009</u>	<u>7/1/2010</u>	<u>7/1/2011</u>	<u>7/1/2012</u>	<u>7/1/2013</u>	<u>7/1/2014</u>	<u>7/1/2015</u>	<u>7/1/2016</u>
2.00%	7/1-4.0%	3.25%	0.0%	0.0%	1.3%	2.2%	3.1%	0.0%	2.2%	3.1%
	12/2-1.5%									

Judges '85 System (Ad-Hoc before 2011, same as '77 system after 2010*)

<u>7/1/2006</u>	<u>7/1/2007</u>	<u>7/1/2008</u>	<u>7/1/2009</u>	<u>7/1/2010</u>	<u>7/1/2011</u>	<u>7/1/2012</u>	<u>7/1/2013</u>	<u>7/1/2014</u>	<u>7/1/2015</u>	<u>7/1/2016</u>
0.0%	0.0%	2.0%	2.0%	0.0%	1.3%	2.2%	3.1%	0.0%	2.2%	3.1%

*Only for members who retired after 12/31/09

Public Employees' Retirement Fund (PERF) Fund Overview

As of June 30, 2016

MEMBERSHIP: *Full-time employees of the state and political subdivisions that elect to participate*

TYPE: *Defined Benefit - Hybrid (Defined Benefit + Annuity Savings Account)*

FUNDED RATIO: 79.1%

UNFUNDED LIABILITY: \$3,855.9 M

BENEFITS¹

Benefit Formula: *1.1% x Avg. High 5 Yr. Salary x Yrs. Service (plus ASA)*

Vesting: *DB - 10 years, ASA - Immediate*

Full Retirement Age: *65 w/ 10 years service, 60 w/ 15 years service, 55 - rule of 85*

Avg. Overall Annual Retiree Benefit (2016): \$9,996 (ASA Annuitized)

Actual	Projected Benefit Payments ²		
	FY16	FY17	FY18
\$787M	\$866 M	\$878 M	\$924M

FUNDING SOURCES

Member Contribution: *3% salary to member ASA*

General Fund Appropriation: *Pre-Funded 13th Check*

Soft Freeze Payments

Employer Contribution (State): *Board Approved Rate (FY16 = 11.2%; FY17 = 11.2%)*

Employer Contribution (Subdivisions): *Board Approved Rate (FY16 = 11.1%; FY17 = 11.2%)*

Actual	Projected Contributions ³		
	FY16	FY17	FY18
\$159 M	\$151 M	\$153 M	\$155 M
\$ 9 M	-	-	-
\$ 59 M	-	-	-
\$183 M	\$188 M	\$187 M	\$187 M
\$ 365 M	\$ 376 M	\$ 374 M	\$374 M
\$775 M	\$715 M	\$714 M	\$716 M

¹ Actual and Projected Benefit Payments include ASA Annuity payments

² Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.

³ Based on the 6/30/2016 Actuarial Valuation. FY18 and FY19 projected contributions could change.

Teachers' Retirement Fund (TRF) – Pre 1996 Account Fund Overview

As of June 30, 2016

MEMBERSHIP: Teachers of K12 public schools and certain state universities hired prior to July 1, 1995

TYPE: Defined Benefit - Hybrid (Defined Benefit + Annuity Savings Account)

FUNDED RATIO: 29.7%

UNFUNDED LIABILITY: \$11,831.2 M

BENEFITS¹

Benefit Formula: $1.1\% \times \text{Avg. High 5 Yr. Salary} \times \text{Yrs. Service}$ (plus ASA)

Vesting: DB - 10 years, ASA - Immediate

Full Retirement Age: 65 w/ 10 years service, 60 w/ 15 years service, or 55 with the Rule of 85

Avg. Overall Annual Retiree Benefit (2016): \$23,640 (ASA Annuitized)

Actual	Projected Benefit Payments ²			
	FY16	FY17	FY18	FY19
\$1,118 M	\$1,168 M	\$1,170 M	\$1,196 M	

FUNDING SOURCES

Member Contribution: 3% salary to member ASA

General Fund Appropriation: Pre-96 Pay-as-you-go benefit obligation

General Fund Appropriation: Pre-Funded 13th Check (Includes Fy16 and FY17)

Pension Stabilization Fund: Lottery (Pre-96)

Other: Pre-96 Employer Contribution (AOS, FSP, HEP)

Actual	Projected Contributions ²			
	FY16	FY17	FY18	FY19
\$ 31 M	\$ 29 M	\$ 27 M	\$ 24 M	
\$817 M	\$841 M	\$866 M	\$892 M	
\$ 41 M		-	-	
\$ 30 M	\$ 30 M	\$ 30 M	\$ 30 M	
\$ 5 M	\$ 5 M	\$ 5 M	\$ 5 M	
\$ 924 M	\$ 905 M	\$ 928 M	\$ 951 M	

¹ Actual and Projected Benefit Payments include ASA Annuity payments

² Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.

Teachers' Retirement Fund (TRF) – 1996 Account Fund Overview

As of June 30, 2016

MEMBERSHIP: *Teachers of K12 public schools and certain state universities hired after June 30, 1995*

TYPE: *Defined Benefit - Hybrid (Defined Benefit + Annuity Savings Account)*

FUNDED RATIO: 91.8%

UNFUNDED LIABILITY: \$526.0 M

BENEFITS¹

Benefit Formula: $1.1\% \times \text{Avg. High 5 Yr. Salary} \times \text{Yrs. Service (plus ASA)}$

Vesting: *DB - 10 years, ASA - Immediate*

Full Retirement Age: *65 w/ 10 years service, 60 w/ 15 years service, or 55 with the Rule of 85*

Avg. Overall Annual Retiree Benefit (2016): \$21,264 (ASA Annuitized)

Actual FY16	Projected Benefit Payments ²		
	FY17	FY18	FY19
\$ 100 M	\$ 130 M	\$ 140 M	\$ 154 M

FUNDING SOURCES

Member Contribution: *3% salary to member ASA*

Employer Contribution: *1996 Account Board Approved Rate (FY16 & FY17 = 7.5%)*

Actual FY16	Projected Contributions ²		
	FY17	FY18	FY19
\$ 88 M	\$ 99 M	\$ 105 M	\$ 112 M
\$ 216 M	\$ 247 M	\$ 263 M	\$ 279 M
\$ 304 M	\$ 346 M	\$ 368 M	\$ 391 M

¹ Actual and Projected Benefit Payments include ASA Annuity payments

² Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments as well as FY18 and FY19 projected contributions could change.

1977 Police Officers' and Firefighters' Pension and Disability Fund (1977 Fund) Fund Overview

As of June 30, 2016

MEMBERSHIP: *Local full-time police and firefighters hired after April 30, 1977*

TYPE: *Defined Benefit*

FUNDED RATIO: 104.3%

UNFUNDED LIABILITY: \$0M, overfunded by \$215.4M

BENEFITS

Benefit Formula: *50% of first class officer salary plus 1% for each 6 months after 20 years, capped at 12%.*

Vesting: *20 years*

Full Retirement Age: *52 with at least 20 years service*

Avg. Overall Annual Retiree Benefit (2016): \$26,278

Actual	Projected Benefit Payments ¹		
	FY16	FY17	FY18
\$128 M	\$159 M	\$189 M	\$202 M

FUNDING SOURCES

Member Contribution: *6% of first class officer salary (max. 32 years)*

Employer Contribution: *Board Approved Rate (FY18= 17.50%; FY19 = 17.50%)*

Actual	Projected Contributions ¹		
	FY16	FY17	FY18
\$45 M	\$46 M	\$47 M	\$48 M
<u>\$151 M</u>	<u>\$147 M</u>	<u>\$142 M</u>	<u>\$145 M</u>
\$196 M	\$193 M	\$189 M	\$193 M

¹ Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments as well as FY17, FY18 and FY19 projected contributions could change.

Judges' Retirement System Fund Overview

As of June 30, 2016

MEMBERSHIP: *Judges and Magistrates of the Supreme Court of the State of Indiana, Court of Appeals, Indiana Tax Court, Circuit Court or County Courts.*

TYPE: *Defined Benefit - Consists of two plans: 1977 System and the 1985 System*

FUNDED RATIO: 93.7%

UNFUNDED LIABILITY: \$31.7 M

BENEFITS

Benefit Formula: *Final Salary x percent factor established in IAC (24% - 60%) based on years of service*

Vesting: *8 years*

Full Retirement Age: *65 with at least 8 years service, or age 55 under the Rule of 85*

Avg. Overall Annual Retiree Benefit (2016) \$59,868

Actual FY16	Projected Benefit Payments ¹		
	FY17	FY18	FY19
\$20.9 M	\$27.3 M	\$29.6 M	\$31.6 M

FUNDING SOURCES

Member Contribution: *6% salary (max. 22 years)*

General Fund Appropriation: *Actuarially Calculated*

Other: *Certain docket and court fees*

Actual FY16	Projected Contributions		
	FY17	FY18	FY19
\$ 3.0 M	\$3.0 M	\$3.1 M	\$3.1 M
\$ 9.8 M	\$ 9.7 M	\$ 8.0 M	\$ 8.9 M
<u>\$ 7.2 M</u>	<u>\$ 7.1 M</u>	<u>\$ 7.1 M</u>	<u>\$ 7.1 M</u>
\$20.0 M	\$ 19.8 M	\$ 18.2 M	\$ 19.1 M

¹ Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.

State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan Fund Overview

As of June 30, 2016

MEMBERSHIP: *State Excise Police, Gaming Agents, Gaming Control Officers, and Conservation Enforcement Officers*

TYPE: *Defined Benefit*

FUNDED RATIO: *85.3%*

UNFUNDED LIABILITY: *\$20.4 M*

BENEFITS

Benefit Formula: *[(Average high five salary x 25%) + (1.67% x yrs service beyond 10 years)]; capped at 75%*

Vesting: *15 years*

Full Retirement Age: *Mandatory @ age 65, at age 55 the Rule of 85 applies, & age 50 with 25 years of service*

Avg. Overall Annual Retiree Benefit (2016): *\$25,733*

Actual FY16	Projected Benefit Payments ¹		
	FY17	FY18	FY19
\$ 6.1 M	\$ 6.7 M	\$ 7.1 M	\$ 7.5 M

FUNDING SOURCES

Member Contribution: *4% of total salary*

General Fund Appropriation: *Pre-Funded 13th Check*

Employer Contribution: *Board Approved Rate (FY18 & FY19 = 20.75%)*

Actual FY16	Projected Contributions ²		
	FY17	FY18	FY19
\$ 1.0 M	\$ 1.2 M	\$ 1.1 M	\$ 1.1 M
\$.1 M		-	-
\$ 5.3 M	\$ 5.6 M	\$ 5.4 M	\$ 5.5 M
\$ 6.4 M	\$ 6.8 M	\$ 6.5 M	\$ 6.6 M

¹ Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.

² Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected contributions could change.

Prosecuting Attorneys' Retirement Fund (PARF) Fund Overview

As of June 30, 2016

MEMBERSHIP: Prosecutors or chief deputy prosecutors serving after December 31, 1989, Executive Director or Assistant Executive Director of the Prosecutors Council, or state paid deputy prosecuting attorney hired after June 30, 1995.

TYPE: Defined Benefit

FUNDED RATIO: 66.4%

UNFUNDED LIABILITY: \$28.6 M

BENEFITS

Benefit Formula: High Salary x percent factor established in IAC (24% - 60%) based on years of service

Vesting: 8 years

Full Retirement Age: 65 with at least 8 years service, or 55 with the Rule of 85

Avg. Overall Annual Retiree Benefit (2016): \$25,056

Actual	Projected Benefit Payments ¹			
	FY16	FY17	FY18	FY19
\$ 3.5 M	\$ 4.4 M	\$ 4.7 M	\$ 4.9 M	

FUNDING SOURCES

Member Contribution: 6% of Salary

General Fund Appropriation: Actuarially Calculated for the DB plan

Actual	Projected Contributions ²			
	FY16	FY17	FY18	FY19
\$ 1.3 M	\$ 1.3 M	\$ 1.4 M	\$ 1.4 M	
\$ 1.4 M	\$ 1.5 M	\$ 2.7 M	\$ 2.9 M	
\$ 2.7 M	\$ 2.8 M	\$ 4.1 M	\$ 4.3 M	

¹ Based on the 6/30/2015 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.

² Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected Member Contributions could change.

Legislators' Retirement System Fund Overview

As of June 30, 2016

MEMBERSHIP: *Members of the Indiana General Assembly*

TYPE: *Defined Benefit - Members serving on April 30, 1989 who elected to participate*
Defined Contribution - Members serving on or after April 30, 1989 who elect to participate

FUNDING RATIO: 80.7%

UNFUNDED LIABILITY: \$ 0.8 M

BENEFITS

Benefit Formula: *Lesser of \$480 x yrs service before '89 or high consecutive three year salary*

Vesting: 10 years

Full Retirement Age: *65 with at least 10 years service, 55 with the Rule of 85, or 60 w/ 15 yrs service*

Avg. Overall Annual Retiree Benefit (2016): \$4,919 (DB Plan Only)

Actual	Projected Benefit Payments ¹			
	FY16	FY17	FY18	FY19
\$ 0.4 M	\$ 0.4 M	\$ 0.4 M	\$ 0.4 M	\$ 0.4 M

FUNDING SOURCES

Employer Contribution: *State rate for PERF plus 3% of salary for the DC plan*

General Fund Appropriation: *Actuarially Calculated Contribution for the DB plan*

Actual	Projected Contributions			
	FY16	FY17	FY18	FY19
\$ 1.8 M	\$ 1.8 M	\$ 1.8 M	\$ 1.8 M	\$ 1.8 M
\$ 0.1 M	\$ 0.1 M	\$ 0.2 M	\$ 0.3 M	\$ 0.3 M
\$ 1.9 M	\$ 1.9 M	\$ 2.0 M	\$ 2.1 M	\$ 2.1 M

¹ Based on the 6/30/2016 Actuarial Valuation. FY17, FY18 and FY19 projected benefit payments could change.